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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,001	03/23/2004	Hans O. Ribí	22201.102US	2828
22870	7590	05/03/2005	EXAMINER	
TECHNOPROP COLTON, L.L.C.			SMITH, RICHARD A	
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2859

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Please find below and/or attached an Office communication concerning this application or proceeding.

SM

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/807,001	RIBI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	R. Alexander Smith	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20040323</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Claim Objections*

1. Claims 3-7, 9, 20-24, 26 and 36-43 are objected to because of the following informalities:

For each of claims 3, 20 and 36, should not "silicon" be --silicone--?

For each of claims 9, 26 and 43, it appears to the examiner that "hexacosnaol" is misspelled.

Claim 37/18 is objected to since it is a duplicate of claim 25/18.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. 5,779,364 to Cannelongo et al.

Cannelongo discloses the limitations of claims 1 and 2 when the thermopolymeric switching medium is either the wax or the polymer as described in the abstract and the indicating

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means is the movement of the wax or polymer (22 and 22') from the first position shown in figure 4a to the second position shown in figure 4b.

4. Claims 1 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. 5,144,880 to Schmit.

Schmitt teaches a thermal indicator having an indicating means, a barrel with a cavity, a sliding indicator in the barrel cavity and means for resiliently biasing the indicator away from the retracted position and toward the extended position, and discloses that the thermal indicator is designed to incorporate a thermopolymeric switching medium such as a suitable hot melt adhesive or other thermoplastic adhesives (column 2, lines 62-68).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2, 14-17, 19 and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmitt in view of U.S. 5,109,054 to Smith.

Schmitt teaches all that is claimed as discussed in the above rejections of claims 1 and 18 except for the limitations of claims 2, 14-17, 19 and 31-34.

Smith discloses a hot melt adhesive employing an organic thermopolymeric material (polymer fatty acid polyamide resin) and comprising at least one emulsifier selected from the group consisting of lipids, long chain alcohols, lecithins, glycol lipids, quaternized amines with lipid tails, and charged ionic detergents, and combinations thereof (abstract and column 10, lines 1-10) that can vary from 0.5% to 10%.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add the hot melt adhesive, as taught by Smith, to the thermal indicator, taught by Schmitt, in order to allow the thermal indicator to work as intended and described by Schmitt.

With respect to the at least one emulsifier and the amount thereof by weight with respect to the switching medium, i.e., 0.001-10 %, 0.01-5 % and 0.1-1 %: Smith discloses that the type of emulsifier and amount may vary and discloses a range of 0.5% to 10%. Therefore, the limitations regarding the percentages by weight of the emulsifier as claimed is only considered to be the "optimum" values of the emulsifier amount of the thermal indicator having the hot melt adhesive, disclosed by Schmitt as modified by Smith, as stated above, that a person having ordinary skill in the art would have been able to determine using routine experimentation based,

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among other things, on providing the proper dispersion of the components in the mixture to assure the batch has uniform properties throughout. See In re Boesch, 205 USPQ 215 (CCPA 1980).

7. Claims 2-13, 19-30 and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmitt in view of U.S. 6,239,250 to Hefner et al.

Schmitt teaches all that is claimed as discussed in the above rejections of claims 1 and 18 except for the medium being organic and the specific composition limitations of claims 3-13, 20-30, 36 and 37.

Hefner et al. discloses a hot melt adhesive employing organic polymeric materials adjustable for melting temperatures in the range of 50°C to 165°C (column 3, lines 47-58) and that includes various interactive and other additives designed to be tackifiers, oils, plasticizers, waxes, fillers and the like (column 6, lines 17-57) in order to achieve the desired characteristic (the performance characteristics being in column 6, lines 58-67) and other interactive additives such as thermal stabilizers, UV stabilizers and antioxidants (column 7, lines 1-8). Hefner et al. also discloses in the claims various additives including adhesion promoters, coupling agents, other typical hot melt adhesive polymers, and the use of non-hot melt polymers.

Hefner et al. discloses that the at least one inert additive (column 6, lines 45-57) is selected from the groups as claimed, i.e., in this case chalk, glass, sand, and/or high boiling liquid polymeric material in order to improve creep, lower cost or change viscosity.

Hefner et al. discloses the at least one interactive additive (column 6, lines 17-35) is selected from the group as claimed, i.e., in this case, bees wax, petroleum distillation analogs,

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synthetic organic analogs, alcohols, esters, etc. in order to affect one or more of the characteristics as listed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add the hot melt adhesive, as taught by Hefner et al., to the thermal indicator, taught by Schmitt, in order to allow the thermal indicator to work as intended and described by Schmitt.

With respect to the at least one inert additive and the amount thereof by weight with respect to the switching medium, i.e., 0.1-99 %, 5-95 % and 10-90 %, and the at least one interactive additive and the amount thereof by weight with respect to switching medium, i.e., 0.1-99 %, 5-95 %, 10-90 % and 20-80 %: Hefner et al. discloses that additives are added; that the switching medium has formulated versions that are employed for optimum performance (column 6, lines 17-20); that a multitude of bonding applications (column 6, lines 58-67) can be accommodated; and that other additives are included which affect internal characteristics of the switching medium (column 7, lines 1-7), e.g. aroma, shelf life, usage life, water resistance, etc. Therefore, the limitations regarding the percentages by weight of the inert additive and of the interactive additive are only considered to be the "optimum" values of the inert additives and the interactive additives of the thermal indicator having the hot melt adhesive, disclosed by Schmitt as modified by Hefner et al, as stated above, that a person having ordinary skill in the art would have been able to determine using routine experimentation based, among other things, on provided the optimum performance characteristics for the intended use, e.g. plastic/paper bonding, while lower creep, costs or modify viscosity, as already suggested by Hefner et al. See In re Boesch, 205 USPQ 215 (CCPA 1980).

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8. Claims 14-17, 31-34 and 38-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmitt and Hefner et al. as applied to claims 2-13, 19-30 and 35-37 above, and further in view of U.S. 4,871,811 to Gaku et al.

Schmitt and Hefner et al. disclose all that is claimed as discussed in the above rejections of claims 2-13, 19-30 and 35-37. Furthermore, Hefner et al. discloses that the polymerization process involves a reaction solvent and that it must serve to dissolve and keep the catalyst in solution during the polymerization reaction and discloses a list of preferred solvents which include organic solvents including hydrocarbons such as toluene. Hefner et al. discloses that nonsolvents such as water can be contemplated (the paragraph at column 4, line 50 to column 5); that crystallinity must be controlled in the polymerization process (column 4, lines 12-25); and that a continuous stirring tank is used for the preparation.

Gaku et al. discloses a hot melt adhesive composition employing thermopolymeric plastics in combination with other additives and discloses in a method that mixing is done with organic solvents including toluene to dissolve the components that this represents a relatively emulsified condition (column 5, lines 35-44).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include an emulsifier as claimed (in this case a lipid or alcohol) in order to assure that the composition in the mixer is emulsified and is homogeneous so as to provide a product which has uniform properties throughout the batch.

With respect to the at least one emulsifier and the amount thereof by weight with respect to the switching medium, i.e., 0.001-10 %, 0.01-5 % and 0.1-1 %: Hefner et al. discloses that additives are added; that the switching medium has formulated versions that are employed for



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optimum performance (column 6, lines 17-20); that a multitude of bonding applications (column 6, lines 58-67) can be accommodated; and that other additives are included which affect internal characteristics of the switching medium (column 7, lines 1-7), e.g. aroma, shelf life, usage life, water resistance, etc. Therefore, the limitations regarding the percentages by weight of the emulsifier is only considered to be the "optimum" values of the emulsifier amount of the thermal indicator having the hot melt adhesive, disclosed by Schmitt as modified by Hefner et al. and Gaku et al., as stated above, that a person having ordinary skill in the art would have been able to determine using routine experimentation based, among other things, on providing the proper dispersion of the components in the mixture to assure the batch has uniform properties throughout. See In re Boesch, 205 USPQ 215 (CCPA 1980).

9. Claims 14-17, 31-34 and 38-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmitt and Hefner et al. as applied to claims 2-13, 19-30 and 35-37 above, and further in view of U.S. 5,852,083 to Walsh et al.

Schmitt and Hefner et al. disclose all that is claimed as discussed in the above rejections of claims 2-13, 19-30 and 35-37. Furthermore, Hefner et al. discloses that the polymerization process involves a reaction solvent and that it must serve to dissolve and keep the catalyst in solution during the polymerization reaction and discloses a list of preferred solvents which include organic solvents including hydrocarbons such as toluene. Hefner et al. discloses that nonsolvents such as water can be contemplated (the paragraph at column 4, line 50 to column 5); that crystallinity must be controlled in the polymerization process (column 4, lines 12-25); and that a continuous stirring tank is used for the preparation.

Walsh et al. discloses that a hot melt adhesive composition and discloses in the prior art (column 2, lines 3-22) that mixers use an emulsifier to help shear and to reduce the size of solid particles.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include an emulsifier as claimed (in this case a lipid or alcohol) in order to assure that the composition in the mixer is emulsified, to reduce the solid particle sizes and to assure the batch is homogeneous so as to provide a product which has uniform properties throughout the batch.

With respect to the specific materials disclosed, i.e., at least one emulsifier selected from the group consisting of lipids, long chain alcohols, lecithins, glycol lipids, quaternized amines with lipid tails, and charged ionic detergents, and combinations thereof: This at least one emulsifier is only considered to be the use of "optimum" or "preferred" materials that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide to provide as disclosed by Hefner et al. and by Walsh et al. since they are well known types of emulsifiers and since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use of the invention. In re Leshen, 125 USPQ 416.

With respect to the at least one emulsifier and the amount thereof by weight with respect to the switching medium, i.e., 0.001-10 %, 0.01-5 % and 0.1-1 %: Hefner et al. discloses that additives are added; that the switching medium has formulated versions that are employed for optimum performance (column 6, lines 17-20); that a multitude of bonding applications (column

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6, lines 58-67) can be accommodated; and that other additives are included which affect internal characteristics of the switching medium (column 7, lines 1-7), e.g. aroma, shelf life, usage life, water resistance, etc. Walsh discloses that an emulsifier is added. Therefore, the limitations regarding the percentages by weight of the emulsifier is only considered to be the "optimum" values of the emulsifier amount of the thermal indicator having the hot melt adhesive, disclosed by Schmitt as modified by Hefner et al. and Walsh et al., as stated above, that a person having ordinary skill in the art would have been able to determine using routine experimentation based, among other things, on providing the proper dispersion of the components in the mixture to assure the batch has uniform properties throughout. See In re Boesch, 205 USPQ 215 (CCPA 1980).

### *Conclusion*

10. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. The prior art cited in PTO-892 and not mentioned above disclose related thermal indicators.

All of the thermal indicators having a pop-up indicator include or disclose the use of some form of thermopolymeric material.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. Alexander Smith whose telephone number is 571-272-2251.

The examiner can normally be reached on Monday through Friday from 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F. Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'R. Alexander Smith', with a stylized, flowing script.

R. Alexander Smith  
Primary Examiner  
Technology Center 2800

RAS  
May 2, 2005